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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,658	12/11/2003	W. Daniel Hillis	SE1-0002C3-US	9013
80118 7590 10/05/2009 Constellation Law Group, PLLC P.O. Box 220 Tracyton, WA 98393				
EXAMINER				
SAVLA, ARPAN P				
ART UNIT		PAPER NUMBER		
2185				
MAIL DATE		DELIVERY MODE		
10/05/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/734,658

## Applicant(s)

HILLIS ET AL.

## Examiner

Arpan P. Savla

## Art Unit

2185

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 5/14/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

**Response to Amendment**

This Office action is in response to Applicant's communication filed June 2, 2009 in response to the Office action dated February 3, 2009. Claims 1-5, 9-26, 34-37, 39-45, and 47-50 have been amended. Claims 1-50 are pending in this application.

**ACKNOWLEDGMENT OF REFERENCES CITED BY APPLICANT**

**Information Disclosure Statement**

1. As required by MPEP § 609(c), Applicant's submission of the Information Disclosure Statement (IDS) dated May 14, 2009 is acknowledged by Examiner and the cited reference has been considered in the examination of the claims now pending. As required by MPEP § 609 c(2), a copy of the PTOL-1449 initialed and dated by Examiner is attached to the instant Office action.

**REJECTIONS NOT BASED ON PRIOR ART**

**Claim Rejections - 35 USC § 101**

2. In view of Applicant's amendment, the 101 rejection of claims 1-50 is withdrawn.

**Claim Rejections - 35 USC § 112**

3. In view of Applicant's amendment, the 112, second paragraph rejection of claims 14, 15, 39, and 40 is withdrawn.

**REJECTIONS BASED ON PRIOR ART**

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-4, 9-15, 17-21, 26-29, 34-36, 39, 40, and 42-46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (U.S. Patent 5,920,701) (hereinafter "Miller") in view of Jaeger (U.S. Patent 6,345,028) and Ma et al. (U.S. Patent 5,926,649) (hereinafter "Ma").

6. **As per claims 1 and 26**, but more specifically claim 1, Miller discloses a method comprising:

publishing a schedule of content transmission, the schedule identifying the content by one or more times (col. 3, lines 1-2; col. 13, lines 4-9; Fig. 3, element 114);

transmitting the at least one content to a temporal data storage system in accord with the published schedule (col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46). *It should be noted that the "tape drives" within the "replicated servers" are analogous to a "temporal data storage system."*

Miller does not disclose reading at least one content from at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission.

Jaeger discloses reading at least one content from at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission (col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that the "data signals/tracks" are analogous to the "at least one content" and that the "disk drive" is analogous to a "hardware spatial data storage system."*

Miller and Jaeger are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Jaeger's reordering of data signals within Miller's content source's hard disk drives because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of maximizing the number of data signals that can be transmitted from a disk drive by minimizing seek time of the disk drive head.

The combination of Miller/Jaeger does not disclose the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system.

Ma discloses the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system (col. 9, lines 10-22; col. 10, lines 43-60; Figs. 4 and 5). *It should be noted that "disk-based storage system 14" is equivalent to the "hardware spatial data storage system". It should also be noted that the schedules in Fig. 5 are defined in response to*

*the location of data in the disk-based storage system. The location of data in the disk-based storage system dictates the order of data in the disk-based storage system. Therefore, it follows that the schedules in Fig. 5 are also defined in response to the order of the data in the disk-based storage system.*

The combination of Miller/Jaeger and Ma are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Ma's scheduling technique to Miller/Jaeger's distribution schedule. The motivation for doing so would have been to provide sequential-like parallel retrieval suitable for supporting real-time multimedia data distribution for large numbers of clients.

7. **As per claims 2 and 27**, the combination of Miller/Jaeger/Ma discloses said publishing a schedule of content transmission, the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system, the schedule identifying the content by one or more times further comprises:

printing the schedule of content transmission on a medium (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114); *It should be noted that act of "transmitting" the "distribution schedule" across the "communication links" anticipates the act of "printing the schedule of content transmission on a medium" because the distribution schedule is reproduced ("printed") on the communication link ("medium").*

and distributing the medium to one or more sites associated with one or more associated data switch controllers (Miller, col. 3, lines 1-2; col. 13, lines 4-9; Fig. 3, element 114; col. 5, lines 39-43; Fig. 1, elements 16, 18, 20; Fig. 2, element 34). *It should be noted that the "replicated servers" are equivalent to the "one or more sites" and that the "I/O controllers" are equivalent to the "data switch controllers."*

8. **As per claims 3 and 28**, the combination of Miller/Jaeger/Ma discloses said publishing a schedule of content transmission, the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system, the schedule identifying the content by one or more times further comprises:

transmitting the schedule of content transmission over a data communications link (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114).

9. **As per claims 4 and 29**, the combination of Miller/Jaeger/Ma discloses said publishing a schedule of content transmission, the schedule being defined in response to an order in which the at least one content is spatially resident upon at least one hardware spatial data storage system, the schedule identifying the content by one or more times further comprises:

transmitting the schedule of content transmission over a sideband data communications link (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114).

10. **As per claims 9 and 34**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one hard disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

11. **As per claims 10 and 35**, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

reading tracks of the at least one hard disk drive in a defined sequence including at least a sequence starting with an outer track and ending with an inner track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

12. **As per claims 11 and 36**, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

reading tracks of the at least one hard disk drive in a defined sequence including at least a sequence starting with an inner track and ending with an outer track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that depending on the manufacturer, "track 1" could be the innermost track and "track N" could be the outermost track, and vice versa.*

13. **As per claims 12 and 37**, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

reading the at least one content from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)



and reading a copy of the at least one content from a second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11').

14. **As per claim 13**, the combination of Miller/Jaeger/Ma discloses said reading the at least one content from at least one hard disk drive further comprises:

determining a first time interval during which a first segment of a first content will be read from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)

determining a second time interval during which a second segment of the first content will be read from second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11');

and defining the schedule in response to the first time interval and second time interval (Ma, col. 10, lines 43-60; Fig. and 5).

15. **As per claims 14 and 39**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content of a hard disk drive such that an aggregate distance traversed by a hard disk head is minimized (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that reading data tracks from the disk drive starting with track 1 and ending with track N will "substantially minimize" the aggregate distance traversed by a disk drive head.*

16. **As per claims 15 and 40**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content of a spatial address device such that an aggregate time to read the at least one content of the spatial address device is minimized (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that reading data tracks from the disk drive starting with track 1 and ending with track N will "substantially minimize" the aggregate time to read the data tracks of the disk drive.*

17. **As per claims 17 and 42**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one file address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

18. **As per claims 18 and 43**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one disk address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

19. **As per claims 19 and 44**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one file address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

20. **As per claims 20 and 45**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one static memory address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

21. **As per claims 21 and 46**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one object address storage system (col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

22. **As per claim 38**, the combination of Miller/Jaeger/Ma discloses said means for reading the at least one content from at least one hard disk drive further comprises:

means for reading a first content from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)

and means for reading a second content a second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11').

23. **Claims 5-8 and 30-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Jaeger and Ma as applied to claim 1 above, and further in view of Eyer et al. (U.S. Patent 5,801,753) (hereinafter "Eyer").

24. **As per claims 5 and 30**, the combination of Miller/Jaeger/Ma discloses a temporal data storage system (Miller, col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose transmitting the schedule of content transmission to the temporal data storage system.

Eyer discloses transmitting the schedule of content transmission to a memory (col. 5, line 62 – col. 6, line 23).

The combination of Miller/Jaeger/Ma and Eyer are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to provide Eyer's IPG stream to Miller/Jaeger/Ma's tape drives because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of an interactive guide that responds to user inquiries on an instantaneous or near instantaneous basis.

25. **As per claims 6 and 31**, the combination of Miller/Jaeger/Ma/Eyer discloses said transmitting the schedule of content transmission to the temporal data storage system further comprises:

interleaving the schedule of content with other data (Eyer, col. 15, lines 55-61).

26. **As per claims 7 and 32**, the combination of Miller/Jaeger/Ma/Eyer discloses said interleaving the schedule of content with other data further comprises:

transmitting the schedule relative to at least one time marker amongst the at least one content (Eyer, col. 16, lines 45-58; Fig. 5).

27. **As per claims 8 and 33**, the combination of Miller/Jaeger/Ma/Eyer discloses said interleaving the schedule of content with other data further comprises:

transmitting the schedule amongst the at least one content at a determined interval of time (Eyer, col. 16, lines 45-58; Fig. 5).

28. **Claims 16, 22-25, 41, and 47-50** are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Jaeger and Ma as applied to claim 1 above, and further in view of Cho (U.S. Patent 6,081,402).

29. **As per claims 16 and 41**, the combination of Miller/Jaeger/Ma discloses said reading at least one content from the at least one hardware spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading a storage of a hard disk drive with a hard drive arm having a disk drive head, said head is dedicated to at least one specific disk drive track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

The combination of Miller/Jaeger/Ma does not disclose a hard drive arm having at least two disk drive heads.

Cho discloses a hard drive arm having at least two disk drive heads (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Cho's multi-arm-track-per-head disk drive within Miller/Jaeger/Ma's recording system because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

30. **As per claims 22 and 47**, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a head of a first arm and a head of a second arm (col. 11, lines 45-50; Fig. 13).

The combination of Miller/Jaeger and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that receiving a portion of the at least one content from the hardware spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with a head of a second arm of the delay-reclocking drive, the head of the second arm of the delay-reclocking drive being on a same track as the head of the first arm are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

31. **As per claims 23 and 48**, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a head of a first arm and a head of a second arm (col. 11, lines 45-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that receiving a portion of the at least one content from the hardware spatial data storage system with a delay-reclocking



drive; writing the portion of the at least one content to the delay-reclocking drive with a head of a first arm of the delay-reclocking drive; reading the portion of the at least one content from the delay-reclocking drive with a head of a second arm of the delay-reclocking drive, the head of the second arm of the delay-reclocking drive being on a different track than the head of the first arm are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

32. **As per claims 24 and 49**, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a first head of a first arm and a second head of the first arm (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that a portion of the at least one content from the hardware spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a first head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with a second head of the first arm of the delay-reclocking drive are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of

providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

33. **As per claims 25 and 50**, the combination of Miller/Jaeger/Ma discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the hardware spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger/Ma does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a first head of a first arm and a second head of the first arm (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger/Ma and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger/Ma's buffer as Cho's multi-arm-track-per-head disk

drive (i.e. delay-reclocking drive) in a manner such that a portion of the at least one content from the hardware spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a first head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with the first head of the first arm of the delay-reclocking drive are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

#### **Response to Arguments**

34. Applicant's arguments with respect to claims 1-50 have been considered but are moot in view of the new ground(s) of rejection above.

#### **Conclusion**

#### **STATUS OF CLAIMS IN THE APPLICATION**

The following is a summary of the treatment and status of all claims in the application as recommended by MPEP 707.70(i):

**CLAIMS REJECTED IN THE APPLICATION**

Per the instant office action, **claims 1-50** have received an action on the merits and are subject of a final action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arpan P. Savla whose telephone number is (571) 272-1077. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arpan Savla/  
Examiner, Art Unit 2185  
September 30, 2009

/Sanjiv Shah/  
Supervisory Patent Examiner, Art  
Unit 2185